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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,445	10/16/2003	Magdalena Ostrowski	10020987-1	1580

7590 06/05/2007

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EXAMINER	
GORDON, BRIAN R	

ART UNIT	PAPER NUMBER
1743	

MAIL DATE	DELIVERY MODE
06/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,445	OSTROWSKI ET AL.	
	Examiner	Art Unit	
	Brian R. Gordon	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10-16-03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention..

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for controlling the size of a spot, does not reasonably provide enablement for controlling the bioactivity of a spot to be nonlinear or partially non linear. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. There is no indication as to how one would practice the invention for applicants' specification states the "the exact reasons for the unexpected results are no known". Applicant further provides a "guess" or possible reasoning for the phenomenon which controls the bioactivity of the spot, but fails to prove such or provide any guidance as to how one would perform the method to obtain the results as claimed. The phenomenon of the bioactivity level that occurs from the sequential

deposition of the droplets is something which applicant can not control as admitted in paragraph [0063].

Furthermore, how can applicant state what the bioactivity of a spot would not be? The bioactivity of a spot would depend on a number of factors (type/properties of bioactive material, properties of the substrate which the material is deposited, velocity of ejected material, distance between ejector and substrate, etc.). Therefore such a broad claim as directed to what the bioactivity level would not be may not hold true under all conditions. Applicant does not provide any direction as to how one controls the bioactivity level of a spot to be or not be of a certain type as claimed.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-20 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The portion of the claim directed the bioactivity level appears to be directed to a natural phenomenon or law of nature which applicant cannot control nor appears to have any practical application or usefulness. There appears to be no usefulness in not being able to predict the bioactivity level of a spot comprised of a specified number of droplets.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Leproust et al. US 2004/01516365.

Leproust et al. disclose method for determining splat dimension of drops, as mentioned above, the method may additionally include fabricating an array of chemical probes bound to a surface of a substrate at different feature locations of the array. This fabricating method includes, based on the determined splat dimension, selecting a set of conditions for depositing a series of drops containing polynucleotide, peptide, or monomer units of either onto the substrate surface from positions spaced therefrom, so that drops simultaneously deposited at adjacent features will not contact one another. A series of drops are deposited from positions spaced from the surface onto the feature locations under the selected conditions, so that each of the probes or probe precursors binds to the different feature locations. The foregoing depositing is repeated as needed at the same feature locations so as to form the array. The selected set of conditions may include a same drop volume, velocity, viscosity, and distance from the substrate surface from which they are deposited, as used in the determining of splat dimension. These may be selected such that the splat dimension does not exceed resting drop size by more than 40%, 30%, 20%, 15%, 10%, 8%, 6%, 5%, 4%, or 2% [0045].

The non-linear bioactivity levels are inherent of the method as taught by Leproust et al.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Laurell, Thomas et al.; Gilbert, John R. et al.; Bohm; Sebastian et al.; Mutz; Mitchell W. et al.; Hirota; Toshikazu et al.; Hirota; Toshikazu et al.; Abba, Gabriel et al.; Shchegrova, Svetlana V. et al.; Fisher, William D.; Thompson; Allen C. et al.; Bass; Jay K.; Webb; Peter G.; Peck, Bill J. et al.; Fouillet; Yves et al.; Mutz; Mitchell W. et al.; Caren, Michael P. et al.; and Dahm, SueAnn C. et al. disclose devices and methods for array fabrication.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, Telework Thurs., 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brian R Gordon
Primary Examiner
Art Unit 1743

brg

BRIAN R. GORDON
PRIMARY EXAMINER